Singularity u.FL 72mm

5.8 GHz circularly polarized antenna, RHCP
TrueRC Canada · u.FL connector · 72 mm cable



Read this manual before first use and keep it for future reference.

Rotorama, s.r.o. · www.rotorama.com

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1. Product description

1.1 What it is for

The **TrueRC Singularity 5.8 u.FL** is an omnidirectional, circularly polarized antenna for the 5.8 GHz band, designed for FPV drone video transmitters (VTX) with a u.FL connector. The manufacturer, TrueRC Canada, describes it as its most advanced antenna and as the smallest and lightest 5.8 GHz circularly polarized antenna ever made.

This version has right-hand circular polarization (**RHCP**) and a **72 mm** cable terminated with a u.FL connector. It is particularly suited to smaller 3–4" and racing drones. The cable is flexible and slightly bendable, so the antenna can be routed out of the frame into a suitable position.



TrueRC Singularity 5.8 u.FL – antenna head with cable and u.FL connector

1.2 Specifications and package contents

Product designation	TrueRC Singularity 5.8 u.FL, RHCP, U.FL regular 72mm
Manufacturer	TrueRC Canada
Frequency band	5.6–6.0 GHz
Gain	1.9 dBic
Polarization	circular, right-hand (RHCP)
Cross-polar rejection	−15 to −30 dB (1.9 %)
Radiation efficiency	99 %
SWR	≤ 1.5 : 1
Head dimensions	11.8 mm diameter × 8.2 mm height
Length	72 mm
Cable	RG178 coaxial
Connector	u.FL
Package contents	1× antenna
Not included	video transmitter, antenna mount, cable ties, heat-shrink tubing, u.FL removal tool

2. Use

2.1 Compatibility and polarization

The antenna is designed for 5.8 GHz video transmitters with a **u.FL** antenna connector. The manufacturer lists compatibility with, among others, Caddx Vista / RunCam Link, DJI O3 Air Unit, DJI O4 Air Unit and Walksnail Avatar HD VTX.

The antennas on the drone and on the receiver (FPV goggles) must have the **same polarization**. According to the manufacturer, neither polarization is better – only matching matters. With an RHCP/LHCP combination only about 3 % of the signal gets through: you will still have video, but of much poorer quality. Use **RHCP** antennas on your goggles with this antenna.

The manufacturer deliberately keeps the gain of this omnidirectional antenna low. Higher gain on an omnidirectional antenna means a flatter radiation pattern, so the video would break up when banking, climbing or diving. For longer range, use a higher-gain antenna on the receiver side instead.

2.2 Connecting to the video transmitter

① Always connect and disconnect the antenna with the drone **powered off** (battery disconnected).

② Position the u.FL connector exactly over its counterpart on the video transmitter, perpendicular to the board.

③ Press the connector straight down until it audibly and noticeably **snaps in**. Do not press at an angle and do not use excessive force.

④ Check that the connector sits fully flat and does not come loose when turned slightly.

Never power the video transmitter without an antenna connected. The transmitter may be damaged.

2.3 Mounting on the drone

- Place the antenna head out of reach of the propellers and as far away as possible from the carbon frame, which blocks the signal – usually at the rear of the drone.
- Secure the cable near the connector against being pulled, e.g. with a drop of glue, tape or a cable tie on the frame. The u.FL connector must not carry the weight or movement of the cable.
- Do not bend the cable sharply right at the connector or at the head, and do not pinch it between frame parts.
- Use an antenna mount suitable for your frame to secure the head. The manufacturer's product page links to printable mounts for selected frames.

2.4 Disconnecting the antenna

Never pull the u.FL connector off by the cable. Lift it with a fingernail or a u.FL removal tool **straight up** from the board. The connector manufacturer (Hirose) rates it for 30 mating cycles; in TrueRC's experience the connectors last longer. If the connector clearly “snaps in” when connected, the connection is fine.

2.5 Operation in line with regulations

The antenna itself does not transmit – the frequency and power are set by the video transmitter. However, the antenna gain counts towards the radiated power (e.i.r.p.). Set the channel and power of the video transmitter so that they comply with the permitted frequencies and limits. In the Czech Republic these are laid down by the Czech Telecommunication Office in its general authorisations.

The law of the country in which you operate the product always prevails. Permitted frequency bands and transmit power differ from country to country.

2.6 Care and inspection

- After every crash, check the antenna head, the cable and the seating of the u.FL connector.
- Do not continue to use a damaged antenna (cracked head, broken or chafed cable, loose connector) – it degrades the video and may endanger the video transmitter.
- According to the manufacturer, the cable length is not critical for the antenna's performance, and the cable can be shortened or fitted with a different connector if you have the skills. Any such modification is at your own risk; damage caused by it is not a product defect.
- Store the antenna in a dry place and protect it from mechanical damage.

3. Information for the EU and Czech Market

3.1 Importer and responsible person in the EU

The product is placed on the European Union market by the importer stated below, who is at the same time the responsible person within the meaning of Article 16 of Regulation (EU) 2023/988 of the European Parliament and of the Council on general product safety (GPSR).

Importer / responsible person in the EU	Rotorama, s.r.o.
Company ID (IČO)	051 57 692
VAT ID (DIČ)	CZ05157692
Registered office	Okrajová 1351, 674 01 Třebíč, Czech Republic
E-mail	info@rotorama.cz
Phone	+420 252 252 098
Website	www.rotorama.com

3.2 Disposal of electrical equipment



- The crossed-out wheeled bin symbol on the product, its packaging or in the documentation means that at the end of its service life the product **must not be disposed of together with mixed municipal waste**.
- Hand it over at a take-back point for electrical equipment – at a collection yard, at a take-back point of a collective system, or at the retailer when purchasing a new equivalent product. Take-back is free of charge for the end user.
- The obligations under Act No. 542/2020 Coll., on end-of-life products, are fulfilled by the importer through a collective take-back system.
- Proper disposal helps prevent negative impacts on the environment and human health and contributes to the reuse of secondary raw materials.

Through its contractual partner **ASEKOL a.s.**, the company ensures the take-back of waste electrical equipment from households and the separate collection of waste electrical equipment, batteries and accumulators in accordance with the applicable legislation. The customer is entitled to hand over old electrical equipment or a battery or accumulator at any collection point of the above contractual partner. The addresses of these take-back points are listed at www.asekol.cz, www.ecobat.cz and also https://visoh2.mzp.cz/RegistrMistZO/RegistrMistZOPublic/MapaMistZpetOdberu.

4. Warranty and rights arising from defective performance

The rights and obligations of the contracting parties are governed by Czech law, in particular by Act No. 89/2012 Coll., the Civil Code, and Act No. 634/1992 Coll., on consumer protection.

- The seller is liable to the buyer for the product being free of defects on receipt. If the buyer is a consumer, a defect may be notified **within two years of receipt** of the product (Section 2165 of the Civil Code).
- If a defect appears within **one year** of receipt, the product is deemed to have been defective already at the time of receipt (Section 2161(5) of the Civil Code).
- When purchasing online, a consumer has the right to **withdraw from the contract within 14 days** of receiving the goods without giving a reason (Section 1829 of the Civil Code).
- Claims should be made with the retailer from whom you purchased the product. The importer's contact details are given in Chapter 3.1.
- The competent body for out-of-court settlement of consumer disputes is the **Czech Trade Inspection Authority**, Štěpánská 796/44, 110 00 Prague 1, www.coi.cz.